FINAL

ECI PROJECT NO. EPA 03123.08
TDD 02-04-04-001

CLEAN AIR ACT SECTION 112(r) INSPECTION REPORT

The Genesse Brewing Company
Rochester, NY

GENERAL INFORMATION

Stationary Source	The Genesse Brewing Company
Date of Inspection	May 12, 2004
USEPA Inspection	Dwayne Harrington, USEPA – Region II
Contract Auditor	Neil Mulvey, Environmental Compliance Inc.
Description of Activities	• Opening meeting with facility representative. • Program audit. • Closing meeting with facility representatives. Program audit consisted of the following activities: 1. Document review. 2. Field verification. 3. Personnel interviews.

STATIONARY SOURCE INFORMATION

EPA Facility ID #	1000-0000-9607
Date of Submission	May 17, 1999 Anniversary Date – 5/13/04
Facility Location	445 St. Paul St. Rochester, NY 14605 Monroe County Tel. (716) 826-2500
Number of Employees	*RMP*Submit* states 500 employees Reported 400 employees at time of inspection Union workforce

Description of Surrounding Area	Commercial / urban
Participants	The following individuals participated in this inspection: USEPA Dwayne Harrington – USEPA, Region II, Edison, NJ Neil Mulvey – Environmental Compliance, Inc. (Contractor to USEPA) The following employees of The Genesse Brewing Company participated in this inspection: Claude Brisson – Stationary Engineer (Union) John Henderson – President / CEO Mark Minunni* – Director of Engineering Ed Mullen – Environmental Affairs Manager Bob Murdock – Chief Stationary Engineer * Lead Participant

REGISTRATION INFORMATION

Process ID #	34531 (Anhydrous Ammonia)
Program Level (as reported in RMP)	Program 3
Process Chemicals	Registered with 80,000-lbs. of anhydrous ammonia. Ammonia used as a refrigerant in an industrial refrigeration system.
NAICS Code	31212 (Breweries)

GENERAL COMMENTS

In CY-2001, The Genesse Brewing Company was purchased by a group of private investors and the name changed to High Falls Brewing Company, LLC. The initial RMP registration listed 'The Genesee Brewing Company,' however, the RMP re-submission will update the name to 'High Falls Brewing Company, LLC.' For purposes of this RMP inspection report however, the facility will be referenced as 'Genesse,' based on the existing RMP registration.

The Genesse Brewing Company is located in a commercial / urban area at the north, northwest edge of downtown Rochester, NY. Genesse Brewery occupies approximately 30-acres, with the Genesse River located on the south and east border of the facility.

Anhydrous ammonia is the only Risk Management Program (RMP) regulated material used on site above the threshold quantity. The facility uses anhydrous ammonia as a refrigerant in an industrial refrigeration system. Refrigeration is needed at various points throughout the brewing process, specifically brewing, storage, and product distribution. The facility operates 24/7. Two stationary engineers are on-site each shift, 24/7. Visitors are directed through a security checkpoint upon entering the facility. See Attachment 1 for a site plot plan.

The Chief Stationary Engineer, Bob Murdock, is responsible for operation of the ammonia refrigeration system. Eleven stationary engineers, licensed by the City of Rochester, are responsible for the daily operation and maintenance of the ammonia refrigeration system. The stationary engineers report to the Chief Stationary Engineer. The Chief Stationary Engineer reports to the Director of Engineering, Mark Minunni. The Director of Engineering reports to the President / CEO, John Henderson.

The ammonia refrigeration system includes the following equipment:

- 10 compressors (located in engine room)
- 9 evaporative condensers (located on roof)
- Ammonia liquid receiver (located in engine room)
- 3 accumulators
- 4 liquid transfer tanks
- 8 liquid transfer pumps
- 19 expansion air handling units
- 7 flooded air handling units
- 10 shell and tube heat exchangers
- 2 economizers
- Draft Center (includes receiver, two liquid booster pumps, accumulator, liquid transfer tank and transfer pump, nine air handling units)
- CO_2 liquification system

See Attachment 2 for a simplified ammonia process flow diagram.

The facility registration lists 80,000-lbs. of ammonia. The facility has updated inventory calculations showing an inventory of 27,000-lbs (see Attachment 3). The facility intends to list 27,000-lbs. in its RMP re-submission.

Ammonia charge records indicate ammonia additions as follows:

DATE	**QUANTITY DELIVERED**
4/21/04	6,000-lbs.
2/16/00	7,000-lbs.
4/29/97	7,000-lbs.
6/15/93	6,000-lbs.

Ammonia deliveries every three or four years as indicated above is not unusual to replace normal system losses.

The on-site inventory of anhydrous ammonia exceeds the 10,000-lb. threshold set for applicability to the RMP regulation as well as OSHA's Process Safety Management (PSM) standard. Since the facility is subject to OSHA's PSM rule, and since modeling identified a potential public receptor impact for the worst case scenario, the facility is subject to the Program 3 requirements.

RMP DOCUMENTATION

Genesse has a well developed and well documented RMP program. The program was initially developed in the mid-1990's to address OSHA's Process Safety Management (PSM) regulation. Facility personnel demonstrated an excellent understanding of the RMP requirements and of the content of their written program. Facility personnel maintain detail records and were able to quickly provide requested RMP documents. Genesse has effectively implemented its RMP program.

A separate three ring binder contains detailed documentation for each RMP element. Each RMP element includes a written procedure / policy and detailed documentation.

Comments regarding select RMP elements follow:

Management System

While facility management understands and implements the RMP program, a written management system description was not available for review.

Process Safety Information (PSI)

The facility has a written PSI policy (HFB-PSM-003; issued 12/12/96; rev. 3/4/03). The facility has an established Ammonia Process Safety Team, including union employees and management. PSI documentation includes:

- MSDSs.
- Description of the hazards of ammonia.
- Process chemistry.
- Process description.
- Inventory calculations.
- Equipment list.
- Equipment piping and instrument diagrams (P&IDs).
- Electrical one-line diagrams .
- List of pressure safety valves (PSVs) with appropriate data on set points and flows.

- Ventilation data, including the following description: continuously operated ventilation; upon failure, an alarm will sound in Utilities control room; includes ventilation calculations for fans.
- Statements of compliance with Mechanical Design, Electrical Design, signed by the Director of Engineering, dated 5/3/04 (see Attachment 4).
- Fundamentals of refrigeration description.
- Valve ID chart.

The facility has excellent equipment P&IDs. The drawings were updated in 7/03. The P&IDs include equipment numbers, valve numbers, and pipe schematics with design operating specifications. The P&IDs are well organized and maintained by operating area or equipment type.

There are no electrical area classification designations.

Process Hazard Analysis (PHA)

The facility has a written PHA policy (HFB-PSM-004; issued 12/12/96; rev. 3/4/03). The initial PHA was conducted in November / December 1996, utilizing the What-If/Checklist method. For each hazard scenario, the initial PHA documented causes, engineering/administrative controls, rank, and recommendations.

A PHA revalidation study was conduced in CY-2003/2004. (Note that the five-year revalidation was due in CY-2001). The What-If/Checklist method was used, similar to the initial PHA. The PHA revalidation identified 156 recommendations for consideration. A well managed recommendation tracking system is established. See Attachment 5 for a listing of the PHA recommendations and PHA Recommendation Status Log.

The PHA teams included appropriate personnel and a qualified team leader.

Standard Operating Procedures (SOPs)

The facility has a written policy on SOPs (HFB-PSM-005; issued 12/12/96; rev. 3/4/03). The policy describes a format and content description for written SOPs. The policy specifies a 12-month review cycle for SOPs. Facility has record of annual certification of SOPs. See Attachment 6 for a list of the equipment specific SOPs. See Attachment 6 for an example SOP for an air handling unit.

Emergency shutdown SOPs do not address use of the King valve. There is no written SOP for oil draining.

The SOPs are excellent.

Training

The facility has a written operator training policy (HFB-PSM-006; issued 12/12/96; rev. 3/4/03). Training records include certification by the Chief Stationary Engineer of initial operator training (i.e., grandfathering) dated 10/16/96. Training records include City of Rochester issued "Refrigeration Operator Licenses."

A review of training records for select refrigeration stationary engineers verified adequacy of training records. See Attachment 7 for an example of employee training records. Training verification includes written tests and a 'walk-through simulation' to ensure employee understanding of the procedure.

Employees received RMP/PSM specific training on 4/20/04.

Mechanical Integrity

The facility has a written mechanical integrity program (HFB-PSM-009; issued 12/12/96; rev. 3/5/03). The facility uses MP2, a computerized maintenance system to track work orders, schedule maintenance work, and track equipment history. The procedure includes an equipment list and equipment numbers. Records exist for vibration analysis, infrared survey, and non-destructive testing.

The list of PSVs shows that many valves are overdue for their five-year replacement. See Attachment 8.

Management of Change (MOC)

The facility has a written management of change program (HFB-PSM-011; issued 12/12/96; rev. 3/6/03). The MOC procedure addresses the regulatory requirements and includes an MOC form for documentation of review. Attachment 9 includes a history of MOC reviews. The facility maintains complete records and files of MOC reviews.

Pre-Startup Review (PSR)

The facility has a written PSSR program (HFB-PSM-008; issued 12/12/96; rev. 3/5/03). The PSR procedure only addresses initial start-up/re-start and new process equipment. The procedure does not address PSR for changes requiring updating of PSI.

Compliance Audits

The facility has a written RMP audit program (HFB-PSM-014; issued 12/12/96; rev. 3/10/03). The facility had records of compliance audits performed in November 1997, July 2000, and May 2003. See Attachment 10 for a copy of the May 2003 audit report.

Incident Investigation

The facility has a written incident investigation program (HFB-PSM-012; issued 12/12/96; rev. 3/10/03). Reviewed investigation report of incident that occurred on 10/27/03 involving a forklift truck hitting a 2-inch ammonia line. The report was complete. A report recommendation included installation of guards to protect the line from future impact. This item remains open.

The May, 2003 PSM Audit Report also references an incident, which occurred in CY-2001, involving a forklift truck hitting a pipe on an air handling unit in the Draft Center. The report stated that there was no release of ammonia, but noted recommendations to prevent reoccurrence.

Employee Participation

The facility has a written employee participation program (HFB-PSM-002; issued 12/12/96; rev. 3/4/03). Documentation includes records of meeting minutes as indication of employee participation. Safety meetings appeared to focus on the ammonia refrigeration system and improvements related to RMP. Union employees are actively involved.

Hot Work Permit

The facility has a written hot work permit program (HFB-PSM-010; issued 12/12/96; rev. 3/5/03). The written hot work permit program includes a permit for documentation and a list of individuals authorized to issue HWP forms. Training records were also included.

Contractor Safety

The facility has a written contractor safety program (HFB-PSM-007; issued 12/12/96; rev. 3/4/03). Records include documentation of refrigeration contractor's safety performance, safety training, and plant orientation. Records do not include documentation of contractor screening / pre-selection criteria.

Emergency Response

Reviewed by USEPA inspector. The facility has an up-to-date written emergency response program. The emergency response program includes procedures for employee and public notification. The emergency response plan has been coordinated with local emergency response agencies.

FACILITY TOUR

Reference the following photographs taken during the facility tour:

#GBC-1	High pressure receiver (HPR)
#GBC-2	HPR, showing access to King Valve
#GBC-3	Close-up of King Valve
#GBC-4	#1 Frick Compressor (9x9 reciprocating)
#GBC-5	Primary beer chiller; liquid feed line
#GBC-6	Liquid feed / manifold to chillers & draft center

Several items noted during the facility tour include:

- The facility has no fixed ammonia detectors in the plant. While the facility does have hand-held ammonia detectors, good engineering practice is to have ammonia detectors in areas of high ammonia inventory or areas of high potential employee exposure, including the engine room. Note also that recommendations identified in the PHA revalidation study recommend installation of ammonia detectors in certain remote locations (See Attachment 5, Item No. 113, 114, 118 & 119). **The facility should consider installation of ammonia detectors in the engine room and other high risk areas as noted in the PHA.**

- Pressure safety valves (PSVs) should be discharged to a location away from areas that may expose employees. Reference photograph #GBC-7 (PSV from condenser #9) and photograph #GBC-8 (PSVs from HPR and other vessels in engine room). These PSVs discharge at an elevation and direction that may expose employees. IIAR standard (ANSI/IIAR 2-1992, *Equipment, Design, and Installation of Ammonia Mechanical Refrigeration Systems*) specifies that relief vent lines be at least 7-ft. above the highest structure on the building. **The facility should review and ensure that these and all PSV discharges are at areas away from potential employee exposure.**

FINDINGS/RECOMMENDATIONS

- **The facility should update the ammonia inventory data in *RMP*Submit* to reflect the calculated inventory of 27,000-lbs. rather than the current registration quantity of 80,000-lbs.**

- While facility management understands and implements the RMP program, a written management system description was not available for review. **The facility should develop a written management system description, including a matrix or description of program responsibilities.**

- PSI does not include electrical area classification designations. **The facility should compile information on electrical area classification, as required by §68.65(d)(1)(iii).**

- Emergency shutdown SOPs do not address use of the King valve. **The facility should consider developing an emergency shutdown procedure addressing use of the King valve to isolate ammonia from downstream equipment in the event of an emergency.**

- There is no written SOP for oil draining. **The facility should develop a written SOP for oil draining, consistent with industry practice.**

- The list of PSVs (see Attachment 8) shows that many valves are overdue for their five-year replacement. International Institute of Ammonia Refrigeration (IIAR) Bulletin No. 110 recommends that pressure relief valves be removed and replaced at lest every five-years. **The facility should improve maintenance regarding PSVs, consistent with IIAR Bulletin No. 110.**

- The facility has a written PSR procedure addressing initial start-up/re-start and new process equipment. The procedure does not address PSR for changes requiring updating of PSI. **The facility should modify the PSR procedure to address changes significant enough to require modification to PSI, per the requirements of §68.77(a).**

- Reviewed investigation report of incident that occurred on 10/27/03 involving a forklift truck hitting a 2-inch ammonia line. **A report recommendation included installation of guards to protect the line from future impact. This item remains open. The facility should resolve this open recommendation.**

- The May, 2003 PSM Audit Report references an incident, which occurred in CY-2001, involving a forklift truck hitting a pipe on an air handling unit in the Draft Center. The report stated that there was no release of ammonia, but noted recommendations. **In light of similar incidents in CY-2001 and CY-2003 (occurring on 10/27/03, as described above) both involving forklift trucks hitting ammonia piping, the facility should consider conducting a plant-wide evaluation of this potential and take corrective actions as necessary.**

- The facility has a written contractor safety program. Records include documentation of refrigeration contractor's safety performance, safety training, and plant orientation. Records do not include documentation of contractor screening / pre-selection criteria. **The facility should modify the contractor safety program to include an evaluation of the contractor's safety performance when making initial contractor selection, per the requirements of §68.87(b)(1).**

LIST OF ATTACHMENTS

1. Plot Plan, High Falls Brewing Company (The Genesse Brewing Company), St. Paul St. Property.
2. Simplified Ammonia Process Flow Diagram; 1/97; High Falls Brewing Co., LLC.
3. Ammonia System Capacity Calculations.
4. Mechanical Design & Electrical Design Certification Statements, 5/3/04.
5. PHA Recommendations & PHA Recommendation Status Log.
6. Ammonia Equipment Operating Procedures Index & Ammonia Equipment Operating Procedure – Air Handling Unit (Y-3 CLR East Unit).
7. Employee Training Record.
8. Safety Valve Data and Checklist.
9. Management of Change – Closed File Index.
10. PSM Compliance Audit Report – May 2003.